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AN UNDESCRIBED DWARF SPECIES OF AMORPHA FROM GEORGIA

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IN the Spring of 1953 an *Amorpha* was collected in the Coastal Plain of southern Georgia which appears to be undescribed. Many of its characteristic features are not matched by any of the species described in either the treatment by Rydberg (1919) or Palmer (1931). The plant was found in abundance in a sandy savannah near Lumber City, Georgia. This previously undescribed species of *Amorpha* is at present known only from the type-locality. No specimen of it was to be found in the herbarium of the University of Georgia or that of the University of Florida.

Amorpha georgiana sp. nov. Frutex erectus paululus caespitosus 3–6 dm. altus. Folia numerosa (3) 6–9 (12) cm. longa, subsessilia. Petiolus 1–3 mm. longus. Foliola numerosa, densa, 23–47, plerumque plus quam 40, (3) 6–9 (11) mm. longa (2) 3–4 (5) mm. lata, plerumque elliptica ad oblonga, apice rotundo, truncato vel emarginato, mucronato; mucrone gracile, fastigato, 0.3–0.5 mm. longo; margine revoluta et parce ciliata. Foliola supra glabra, infra parce ciliata et pellucido-punctata, glandes punctatae uniformes, minus quam 70. Racemi 1–4, (2) 3–5 (6) cm. longi; florum numerosae, compactae, pedicelli c. 1 mm. longi. Tubus calycis turbinatus, 1.7–2 mm. altus, glaber, glanduloso-punctatus supra. Lobi calycis superiores triangulo-dentati, acuti, c. 1 mm. longi; lobi inferiores lanceolati, acuminati, c. 1.2 mm. longi; lobi punctato-glandulosi et glabri sed marginibus dense ciliatis. Vexillum late obovatum, 3.5–5 mm. longum, c. 3.5 mm. latum, rubicundo-purpureum. Filamenta exserta, glabra; stylus antrorso-pubescent; stigma capitatum, penicillatum. Fructus (maturus?) 3.5–4.5 mm. longus, c. 2 mm. latus, glaber, manifeste glanduloso-punctatus, obliquo-obovatus, dorsus rectus.

A low, erect, somewhat caespitose shrub 3–6 dm. high with the several to numerous olivaceous branches of the current season's growth 1–2.5

dm. long and 1–2 mm. in diameter, much angled and grooved, glabrescent or minutely puberulent, strongly ascending from the gray to black, slender (about 2–3 mm. in diameter) growth of the preceding season. Leaves numerous, ascendent, arching upward (3) 6–9 (12) cm. long, nearly sessile. Petioles sparsely short-pubescent, shorter than the breadth of the nearest leaflet, about 1–3 mm. long. Stipules inconspicuous, caducous, glabrous, linear-subulate, 1.5–2.5 mm. long. Rachis slender, puberulent, strikingly channeled above, about 0.5 mm. in diameter. Leaflets numerous, usually more than 40 per leaf but varying from 23–47, (3) 6–9 (11) mm. long, (2) 3–4 (5) mm. wide, ratio of length to width about (1) 1.3–2 (2.2), approximate, often imbricately overlapping, the interval between petiolules about (2) 3–5 (6) mm., mostly elliptical to oblong but varying from narrowly elliptical to rarely almost orbicular, rounded to somewhat truncate at base, rounded or truncate and often slightly emarginate at apex with a slender, tapering mucro about 0.3–0.5 mm. long; texture when dry coriaceous, finely reticulate above from the slightly elevated venation but the midvein depressed, the margin somewhat revolute, entire to finely crenulate, the midvein prominently elevated on the lower surface, the secondary veins slightly raised below; glabrous above except for the slightly ciliate margin; while immature, pubescent beneath, the pubescence principally restricted to the midvein and its branches, becoming glabrescent; the punctate glands on the lower surface inconspicuous but noticeable to the unaided eye, more or less of uniform size, averaging less than 70 per leaflet and fewer than 15 per medial 3 mm. half-section. Petiolule puberulent, short, about 0.7–1 mm. long; upper stipel about 1 mm. long, linear-subulate, often persistent, the lower stipel reduced to a glandular, minute, rounded swelling. Racemes solitary or few to several (about 2–4) closely associated, short, (2) 3–5 (6) cm. long, almost sessile with a short peduncle up to 8 mm. long; the puberulent rachis strongly ridged and sharply angled; the flowers densely clustered and borne on short, slightly puberulent to glabrescent pedicels about 1 mm. long subtended by linear-subulate, about 1.5–2 mm. long, ciliate, quickly caducous bracts which leave noticeable scars near base of pedicels. Calyx-tube turbinate, about 1.7–2 mm. high, slightly higher on the abaxial side, glabrous, the punctate glands mostly restricted to the upper half of the tube and arranged more or less in two rows. The two adaxial (= ventral or upper) calyx-lobes triangular-dentate, acute, about 1 mm. long; the three abaxial (= dorsal or lower) calyx-lobes lanceolate, acuminate, somewhat longer than the adaxial lobes, about 1.2 mm. long with the lowermost lobe slightly longer than the two lateral lobes; all lobes punctate-glandular and glabrous except for the densely ciliate margins. Vexillum about 3.5–5 mm. long, about 3.5 mm. wide, very broadly obovate, tapering abruptly to a narrow claw, strongly arching and incurved, enveloping the internal floral parts, the margin slightly irregular to somewhat finely erose, reddish-purple. Androecium monadelphous, about 6 mm. high; the filaments purple, glabrous, filaments united at base for about 1 mm.; anthers about 0.4–0.5 mm. long, exserted,

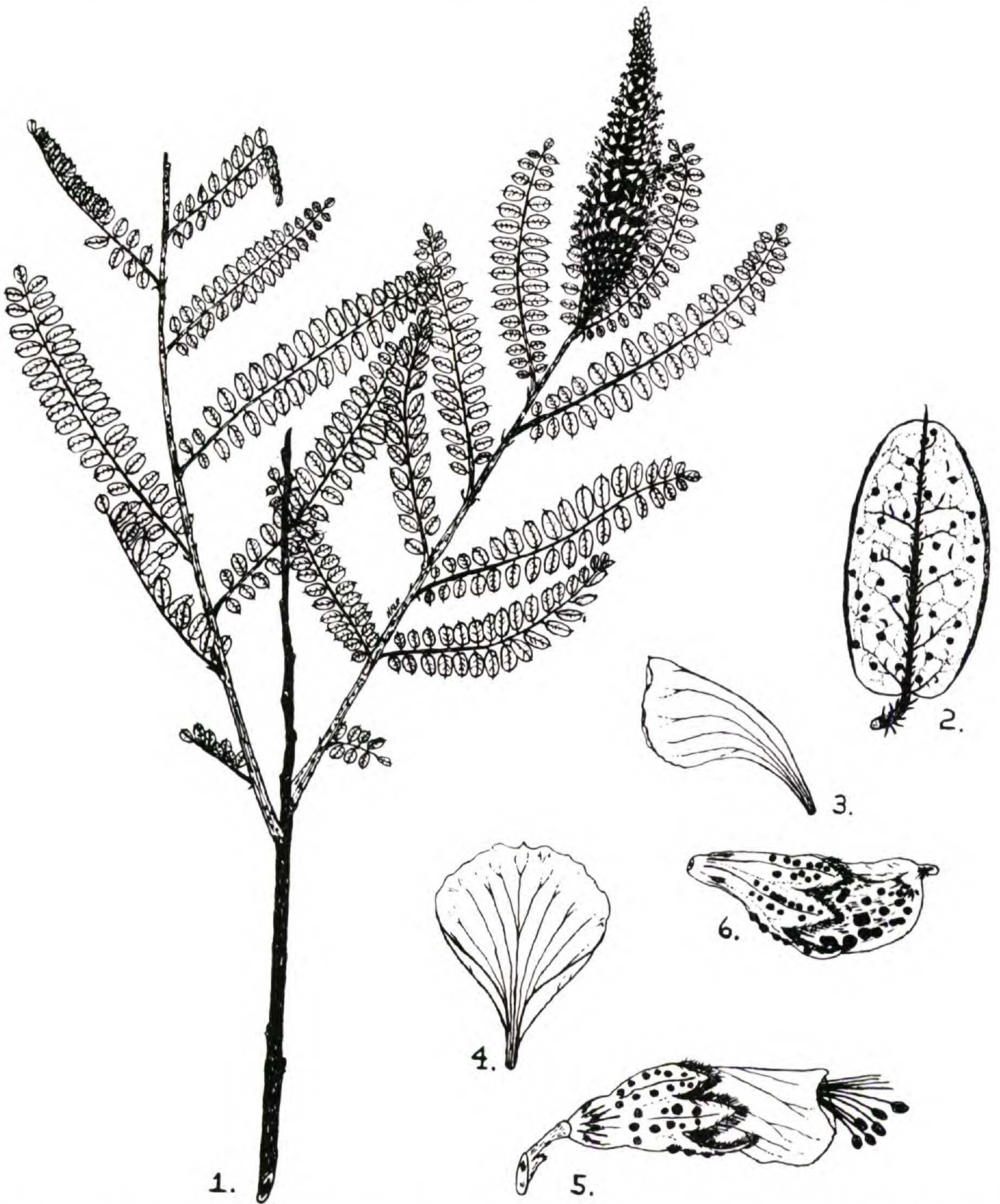
yellow. Pistil about 6 mm. long; the ovary about 1 mm. high, glabrous, obovoid, containing two ovules, the style about 5 mm. long, purple, densely antrorsely pubescent; the stigma terminal, capitate, penicillate. Fruit (fully grown?) 3.5–4.5 mm. long, about 2 mm. wide, appearing slightly stipitate, glabrous, bearing conspicuously punctate resinous glands, slightly exceeding the calyx in length, strongly flattened, obliquely obovate, the adaxial side straight or nearly so, the abaxial side strongly bowed, terminated by the strongly recurved persistent style, and apparently with only one seed.

TYPE:—Sandy wire-grass savannah about 3 miles northwest of Lumber City, Telfair County, Georgia. May 9, 1953. *R. L. Wilbur* no. 3158. (GH). Isotypes: (GA, MICH, MO, NCS, NY, US.). Known only from the type-locality. An additional collection (*Wilbur* no. 3448) was made May 24, 1953 at which time fruiting material was available.

Growing in close association with *Amorpha georgiana* were two rarely collected and narrowly restricted endemics, *Penstemon dissectus* Ell. and *Marshallia ramosa* Beadle & Boynton. *Penstemon dissectus*, according to both Harper (1906) and Pennell (1935), is found only on outcrops of the Altamaha Grit, believed to be of Pliocene age. *Marshallia ramosa* is geographically limited to this same formation. It is quite possible that *A. georgiana* is similarly restricted. Harper, who made an intensive study of the flora of the Altamaha Grit, reports only two species of *Amorpha* from the region, *A. fruticosa* L. and *A. herbacea* Walt.

The very low stature of *A. georgiana* distinguishes it at once from the more robust species of the southeastern Coastal Plain, e.g. *A. nitens* Boynton, *A. crenulata* Rydb., *A. curtissii* Rydb., *A. virgata* Small, *A. croceolanata* Wats., or *A. fruticosa* L. Other striking features by which the new dwarf species may be distinguished from the more robust species are the length of the petiole, size of the leaflets and the number of leaflets per leaf. *Amorpha georgiana* is characterized by a petiole less than 5 mm. long, by leaflets typically less than 1 cm. long, and usually more than forty leaflets per leaf. All of the more robust species mentioned above typically possess petioles 1 cm. or more in length, leaflets longer than 1 cm. and seldom more than twenty-five leaflets per leaf, and very rarely more than thirty-five.

The affinities of *A. georgiana* then appear to be with the southeastern dwarf species, *A. herbacea* Walt., *A. cyanostachya* M. A. Curtiss and particularly with *A. floridana* Rydb. In



FIGURES 1-6. *AMORPHA GEORGIANA*. Fig. 1. Habit sketch $\times \frac{1}{2}$; Fig. 2. Leaflet $\times 5$; Figs. 3 & 4. Vexillum $\times 5$; Fig. 5. Flower $\times 5$; Fig. 6. Calyx and young fruit $\times 5$.

addition to a similar dwarf habit these species all typically possess petioles 1 cm. or less in length. These characters serve to separate the dwarf species as a group from the aforementioned robust species centering about *A. fruticosa*. The following

key to the southeastern dwarf species of *Amorpha* is offered in hope that it will prove to be an aid in identification.

KEY TO THE SOUTHEASTERN DWARF SPECIES OF AMORPHA

1. Leaves and branches densely canescent throughout, calyx-tube densely pubescent, fruit pubescent.....*A. herbacea* Walt.
1. Leaves and branches glabrous or nearly so or but moderately pubescent and then usually glabrescent, calyx-tube glabrous or bearing but few scattered hairs, fruit glabrous.
 2. Leaflets 15–25 in number, medial and lower petioles 8 mm. or more in length.....*A. cyanostachya* M. A. Curtiss.
 2. Leaflets 21–47 in number, usually 35 or more per leaf, medial and lower petioles less than 8 mm. long.
 3. Midvein scarcely if at all extending beyond the blade, terminating in a swollen almost globose tip; leaflets usually more than 1 cm. long; punctate glands of the lower surface of the blade numerous, more than 90 per leaflet, or about 15 or more per 3 mm. medial half-section, appearing to be of 2 sizes; racemes several to numerous, elongate, 10–20 cm. long; calyx-lobes pubescent on the surface in addition to the densely ciliate margins.....*A. floridana* Rydb.
 3. Midvein extending beyond the blade as a tapering slender mucro 0.3–0.5 mm. long; leaflets mostly less than 1 cm. long; punctate glands relatively few, less than 70 per leaflet, or less than 15 per 3 mm. medial half-section, more or less uniform in size; racemes few, short, less than 7 cm. long; calyx-lobes glabrous except for the densely ciliate margins.....*A. georgiana*.

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